

## Report on the Proposed Changes to the Concept 3 Vision Plan



**Transit Planning Board**  
WORKING TOGETHER – CONNECTING OUR REGION

**DRAFT – July 24, 2008**

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- 1) Executive Summary
- 2) Background
- 3) Proposed Changes
  - i) Norcross HRT Extension
  - ii) High Capacity Regional Rail Network
  - iii) High Frequency Inner-Core Network
  - iv) U.S. 78 East Corridor to Snellville
  - v) Madison Commuter Rail
  - vi) Modifications to Henry County
  - vii) Southwest Transitway
  - viii) Changes to Regional Suburban Bus Network
- 4) Summary

## Summary

This document provides a brief description of the proposed changes to the Concept 3 Regional Vision Plan following a six-month public involvement process. Each change is briefly described, illustrated, and the source of the proposed change noted. Among the changes to the fixed guideway network are:

- A high capacity regional rail network composed of:
  - The LRT Network from Concept 3
  - The I-20 East Corridor (changed from busway)
  - The GA 400 Corridor (changed from HRT)
  - The I-575 Corridor (changed from transitway)
- Extension of NE Heavy Rail line to Norcross
- Addition of Madison Commuter Rail Line
- Extension of Memorial Drive BRT to Snellville

Additional changes some of the supporting regional suburban express buses and inner core high frequency routes are also included. These proposed changes help reinforce the Concept 3 network as a whole through potential integration of some services from an operational side as well as responding to specific input from the users of the transportation system. Overall the changes to the Concept 3 vision result in a plan that has an estimated order of magnitude capital cost of \$19 billion and an estimated order of magnitude annual 2030 operating costs of \$730 million. An associated document, **Impacts of Regional Transit Infrastructure Investment on Metropolitan Atlanta: An Examination Using the Transit Planning Board Concept 3 Vision Plan**, provides a more full examination of the impacts, including costs and benefits, of a regional transit investment.

## Background

In November, 2007, the Transit Planning Board authorized staff to take out the Concept 3 Vision Plan for public comment. From December, 2007 until June, 2008, the Transit Planning Board team conducted an extensive public engagement program including individual meetings, electronic and regular correspondence, town hall meetings in April, 2008, and an online survey to obtain comments on the Concept 3 Vision Plan. This effort yielded a large number of comments regarding suggested improvements to the Concept 3 Vision Plan including online comments, spoken comments at public meetings and direct correspondence. At the same time, the TPB team also worked closely with our partner staff at the Atlanta Regional Commission to conduct a technical analysis of the Concept 3 Vision Plan and its impact on the regional transportation network. This technical analysis also revealed some potential refinements to the Concept 3 Vision Plan. This document presents recommended changes to the Concept 3 Vision Plan.

The main body of this document presents the recommended change, a brief description of the change, the source of the suggested change, and its impact on the Concept 3 network.

The final section summarizes the proposed changes and the overall impact on the order of magnitude cost of these changes. An associated document, **Impacts of Regional Transit Infrastructure Investment on Metropolitan Atlanta: An Examination Using the Transit Planning Board Concept 3 Vision Plan**, provides a more full examination of the impacts, including costs and benefits, of a regional transit investment. This document is only intended to present changes to the Concept 3 network.

## Proposed Changes

### *Doraville to Norcross Heavy Rail Extension*



Figure 1: Norcross HRT Extension Detail

#### *Description:*

This change to Concept 3 would extend the Northeast Heavy Rail line to a station in Norcross across I-285.

There are several reasons for proposing and accepting this change. First, the existing northeast HRT line has a bridge across I-285 with tail tracks extending north towards the proposed Norcross Station. As currently envisioned, an LRT or other rail connection at Doraville would potentially have to construct two additional I-285 bridges to reach the Doraville station. Extending the HRT line to Norcross and using the existing HRT Bridge would eliminate this need. Secondly, a station in Norcross could be designed to be a northeastern suburban multi-modal station combining a new AMTRAK stop, commuter rail stop on the Gainesville Line, potentially moving intercity bus service to the station, as well as the regional transit provisions for HRT, high capacity/high speed rail such as LRT, Arterial BRT, and local bus service.

#### **Source of Comment:**

- MARTA DRAFT Comments
- TPB Technical Analysis – Reduction in transfers between Peachtree Corners and Emory

#### **Impact on Concept 3 Network:**

There are several major impacts to the Concept 3 network. First, the high speed/high capacity rail network's (such as LRT) major interchange point with the Northeast HRT line will be changed from Doraville to Norcross. This results in greater potential service to the Peachtree Industrial Boulevard corridor on the Gwinnett/DeKalb line because of the change in HRT station interchange location. Additionally, the Norcross station potentially suggests the multi-modal station similar to the Southern Crescent Transportation Center as a major interchange point for the region. Finally, the extension allows a reduction in transfers for travelers traveling between the Norcross/Peachtree Corners area and various other activities centers such as Emory and Fulton Industrial Boulevard enhancing connectivity of the entire transit network.

While the HRT Extension to Norcross is an expensive addition, the presence of the existing HRT bridge across I-285 removes one of the most expensive portions of the extension. Additionally, existing planning work on the I-285 LRT line indicates that east of the Perimeter Center area, the desired ROW is located north of I-285 which would indicate that any connection of an LRT or other rail line at Doraville would require at least one bridge across I-285, and likely two bridges if the line was to continue further north to the Gwinnett Place area.

## ***High Speed / High Capacity Regional Rail Network***

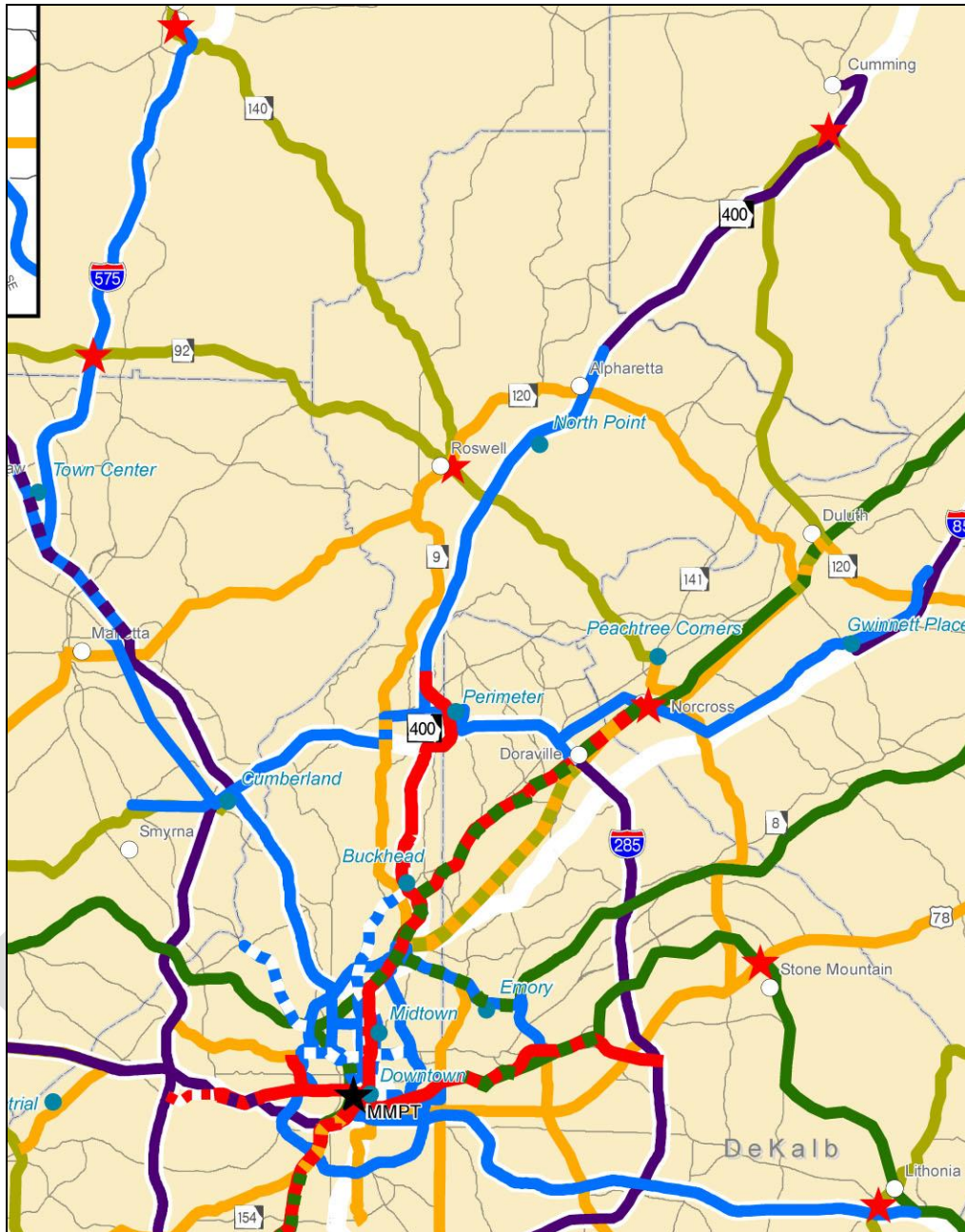


Figure 2: High Capacity / High Speed Regional Rail Network

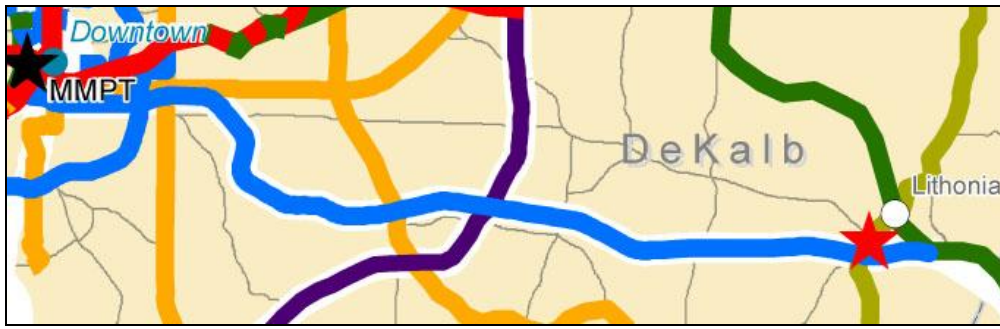


Figure 3: High Capacity / High Speed Regional Rail Network Detail – I-20 East changed from BRT to Rail



Figure 4: High Capacity / High Speed Regional Rail Network Detail – Canton Transitway changed to Rail



*Figure 5: High Capacity / High Speed Regional Rail Network Detail – GA 400 Changed from Heavy Rail to High Capacity Rail*



*Figure 6: High Capacity / High Speed Regional Rail Network Detail – Extension from Gwinnett Place to Gwinnett Arena*

### **Description:**

The figures above illustrate the major changes made to the regional LRT network. Several comments were received regarding changes to specific corridors in particular the I-20 East corridor, GA 400, and Canton Corridors. Many of the comments received on these two corridors specified a desired change to a rail mode in lieu of a full busway or transitway, respectively. Additionally, there were some requests to extend rail to the Gwinnett Arena / Discover Mills/ Mall of Georgia indicating a desire for a northeast extension of the Gwinnett LRT line in the I-85 corridor. These potential changes, when combined with major elements of the LRT/Streetcar network, suggest a high speed/high capacity rail system capable of serving long distance trips. The elements of the network are:

- Canton to Town Center
- Town Center to Cumberland
- Cumberland to Midtown
- Midtown/Downtown Connector
- Downtown to Lithonia/Stonecrest
- Smyrna to Norcross via Cumberland and Perimeter
- Norcross to Gwinnett Place
- Gwinnett Place to Gwinnett Arena
- Lindbergh/Emory/Decatur via the beltline
- Perimeter area to Windward (former HRT Extension)

This is a large, six county system that could be served by existing vehicles on the market either non-FRA Compliant DMUs or regional light rail vehicles.<sup>1</sup> Important points to note are that the system does not directly interact with the existing FRA regulated rail system like the commuter rail lines do and that this separation allows for consideration of a variety of technical options for the service. Additionally, strong travel demand between these areas also suggests the need for all day services.

Finally, Figure 7 below shows that the different elements of this line that were modeled as of July 17, 2008 have boardings / mile within the national average of boardings / mile for non-legacy Light Rail Systems.<sup>2</sup>

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<sup>1</sup> Important to note that the Emory segment would likely only be able to be served by regional LRT and not DMU because of the necessary connection via the Northwest segment of the Beltline

<sup>2</sup> Non-legacy Light Rail Systems are systems constructed after 1970.

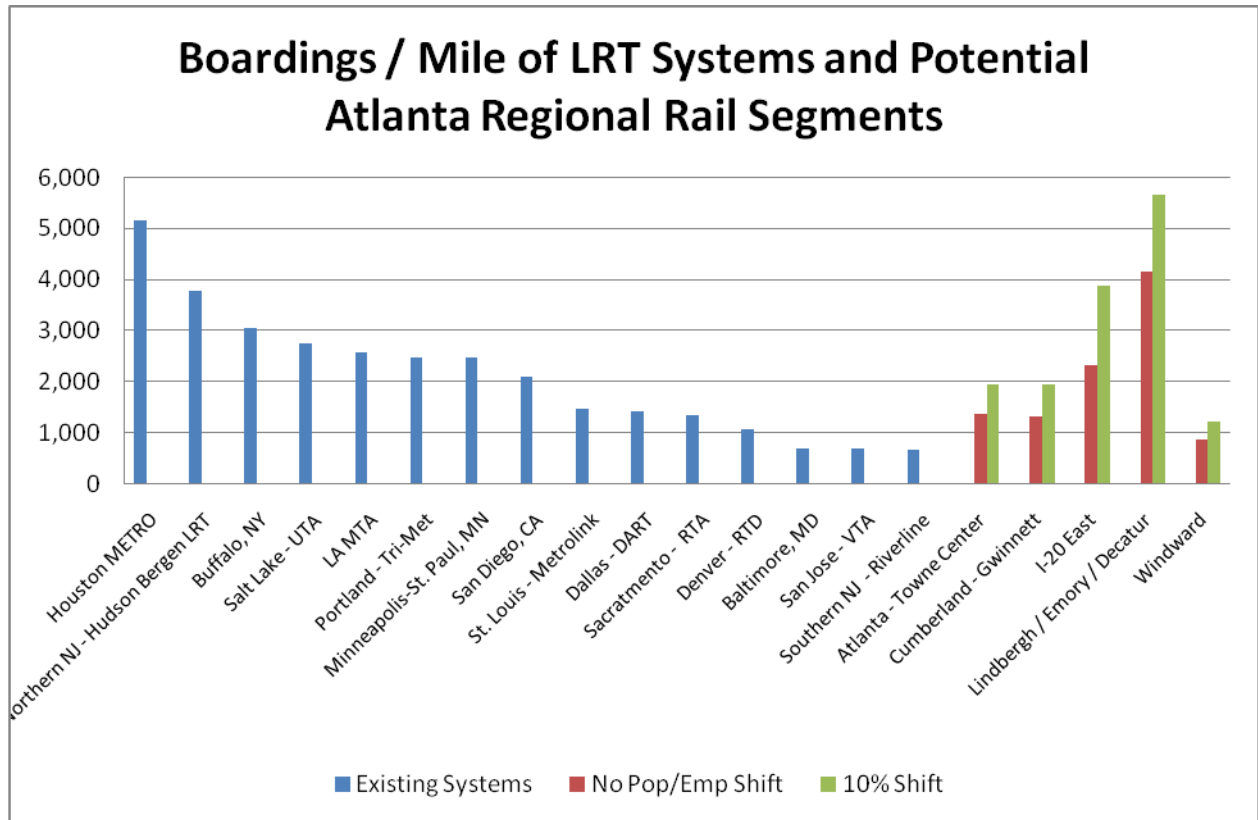


Figure 7: Elements of High Capacity / High Speed Regional Rail Network Boardings / Mile Compared with National Non-Legacy Systems

#### Source of Comment:

- MARTA DRAFT Comments
- 9 Comments from Survey Monkey Regarding I-20 East as LRT
- 7 Comments from Survey Monkey Regarding I-20 East as HRT or rail
- NAACP Meeting
- 16 Comments from Survey Monkey regarding extension to Gwinnett Arena
- 9 Comments from Survey Monkey regarding Commuter Rail to Canton
- 1 Comment from April 1, 2008 Cobb County Open House regarding train to Marietta
- GDOT Comments regarding Commuter Rail to Canton
- TPB Technical Analysis – GA 400 line boardings per mile similar to LRT systems and travel patterns between North Point and other areas

#### Impact on Concept 3 Network:

This system would allow a range of potential services possible a series of routings such as:

- Canton to Lithonia
- Smyrna to Gwinnett Arena

- Smyrna to Windward
- Windward to Gwinnett Arena
- Canton to Norcross
- Cumberland to Emory / Decatur
- Lithonia to Cumberland

These longer distance trips could also be interlined with some aspects of the Inner Core Streetcar network allowing for trips such as Decatur to Cumberland or Lithonia to Downtown / Midtown using the streetcar route along Peachtree Street or the Beltline network. In particular, regarding the North Point area and the change of the GA 400 from heavy rail is that now it is possible for direct service from Gwinnett County and Cobb County instead of Downtown and Midtown.

### ***Inner Core High Frequency Network***



*Figure 8: Inner Core High Frequency Network Detail (Illustrative)*

### ***Description***

This network is a core of high frequency services (10 minutes or less) comprised of either Arterial BRT or streetcar technology. The primary elements of this network are:

- Beltline
- Peachtree Street

- Marietta Boulevard (downtown to Bolton Road)
- Pryor / Capitol Corridor (Downtown to Lakewood)
- Moreland Avenue (Inman Park to Thomasville)
- Donald L. Hollowell / North Avenue / Ponce de Leon
- Campbellton Road
- Edgewood / Auburn Avenue
- Memorial Drive

This network is supposed to form the backbone of a high-frequency local transit network within the central core of the region with a primary focus on the local nature of the trip. Technology on the different routes would be determined by network operational efficiencies or demand. For example, the East=West connections along D.L. Hollowell/North/Ponce and Edgewood Auburn are shown as streetcar since they provide an east-west connection between the east and west portions of the Beltline line allowing for flexibility in Beltline routings (i.e. enabling Bankhead/North Avenue Station/City Hall East/Inman Park service or Centennial Olympic Park/Five Points/Auburn-Irwin Street/Lindbergh service).

### ***Source of Comment***

- MARTA DRAFT Comments
- City of Atlanta Comments
- 16 Comments from Survey Monkey supporting need for elements of a streetcar network
- 1 Comment from April 19, 2008 meeting with Atlanta Planning Advisory Board

### ***Impact on Concept 3 Network***

The Inner Core High Frequency network provides for circulation within the core. The streetcar elements, such as the Beltline, the downtown circulator, etc could be integrated with the High Capacity Regional Rail network similar to how the tram systems and regional rail networks are integrated in some European cities such as the Wiener Lokalbahn in Vienna, Saarbrücken, Kassel, and the Netherlands. This network represents the method for getting around to major destinations in the core, or the 'last mile' from the regional network of heavy rail, regional rail, commuter rail, and express bus networks.

### ***U.S. 78 East corridor to Snellville***



*Figure 9: Snellville Extension of Memorial Drive Arterial BRT Detail*

#### ***Description:***

This proposed change is an extension of the Memorial Drive BRT from the Stone Mountain Park and Ride along U.S. 78 to Snellville. Current ridership on the route 418 (average daily ridership of 411 in May 2008) as well as the initial inclusion of a route as part of the Gwinnett County Transit Feasibility Study additionally suggest extension of this route Memorial Drive BRT to Snellville. This extension complements the existing investment being made along Memorial Drive in DeKalb County.

#### ***Source of Comment***

- 7 Comments from Survey Monkey Regarding demand from Snellville/Loganville area
- One comment from Geranium Festival

#### ***Impact on Concept 3 Network***

This proposed change increases service within the South Gwinnett area through an extension of existing investments to Stone Mountain. Additionally, it reinforces both Snellville and Stone Mountain as activity centers and suggests that these are two areas for consideration of transfer centers and/or P&R lots.

## ***Madison Commuter Rail***



*Figure 10: Madison Commuter Rail Extension Detail*

### ***Description:***

This commuter rail line would extend from Downtown Atlanta out to Madison, Georgia in the CSX row with stops potentially located at Avondale, Stone Mountain, Lithonia, Conyers, Covington, Social Circle, and Madison as described in the GDOT commuter rail plan. Some consideration should be given whether two stop locations are needed in Rockdale County particularly given in the investment in the Sigman Road P&R by GDOT located near the rail line. Like the other commuter rail lines, this line could be through routed to the Airport and the SCTC. Additionally, the possibility of through routing out to west along the Bremen line that should not be precluded to allow for a direct East-West connection across the region. This east-west connection would also allow for future intercity rail movements from Birmingham to Augusta or Columbia.

### ***Source of Comment***

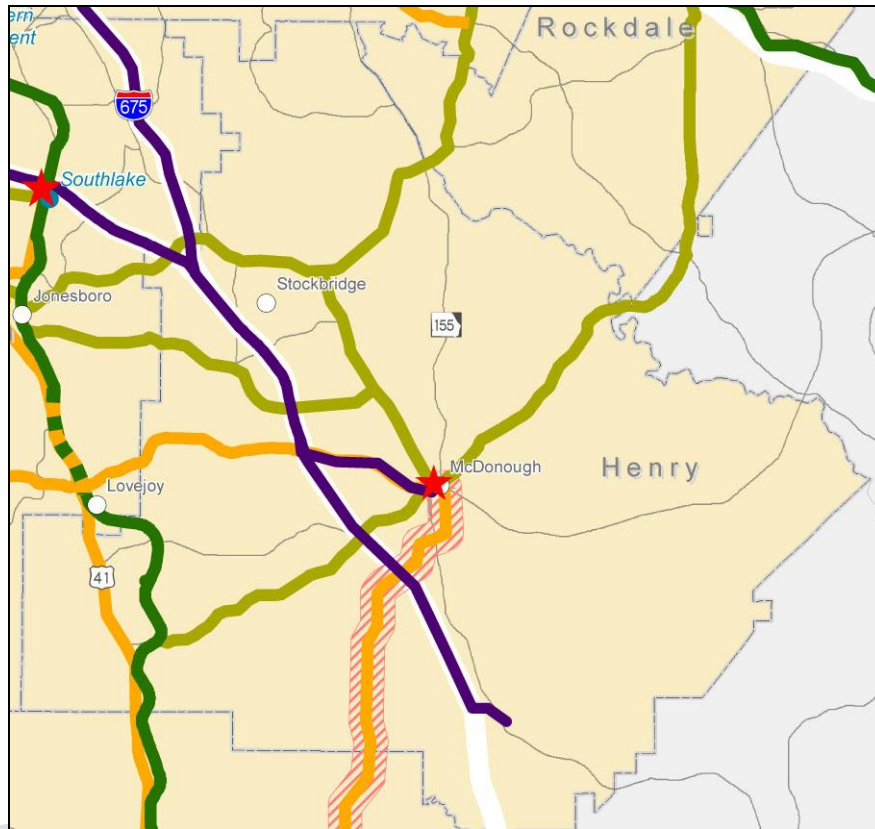
- Letter from City of Conyers
- Letter from Conyers / Rockdale Economic Development County
- 7 Comments from Survey Monkey Regarding rail in I-20 East corridor out to Conyers/Covington
- GDOT Comments regarding Commuter Rail to Madison

### ***Impact on Concept 3 Network***

In conjunction with the I-20 East Busway being converted to be part of the High Capacity Regional Rail system, the possibility of incorporating an interchange station at either the Stonecrest P&R under design or the existing Sigman Road P&R lot just inside in the Rockdale County line should be examined. An

additional transfer station should also be potentially considered at Stone Mountain to coordinate transfers between the under-construction Memorial Drive BRT and the proposed extension to Snellville.

### ***Modifications to the Henry County:***



*Figure 11: Changes in Henry County Detail*

### ***Description:***

During the course of public involvement, the TPB received numerous comments regarding changes to improve the network in Henry County. In particular, better connections to McDonough were desired and freeway bus service south of McDonough. This suggests the following changes to the network in Henry County

1. Extend Freeway shared HOV/HOT service to Locust Grove
2. Cross regional Arterial BRT between Fayetteville and McDonough in the Jonesboro Rd/McDonough Road corridor
3. Extend the Regional Suburban Bus line in the S.R. 20 corridor from Conyers to Hampton through McDonough
4. Regional Suburban Bus service between McDonough and Lithonia or Southlake via U.S. 23 and the current shown route between Lithonia and Southlake via Stockbridge.

### ***Source of Comment***

- 9 Comments at the Geranium Festival on May 17, 2008
- 8 Comments from Survey Monkey Regarding various improvements in Henry County

### ***Impact on Concept 3 Network:***

The main impact these changes have on the Concept 3 network are reinforcing McDonough as a transfer hub within the region for the southeastern portion of the region and provide intercounty alternatives in eastern Henry County.

### ***Southwest Transitway:***

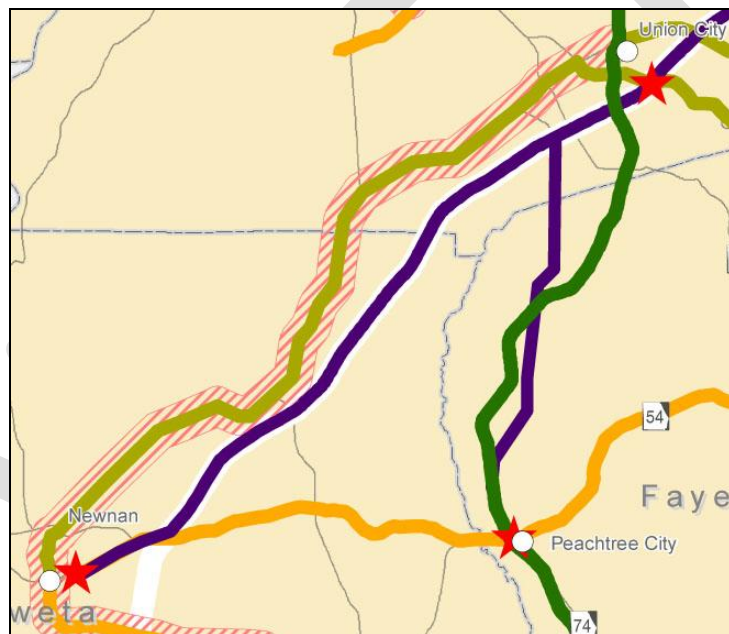


Figure 12: Southwest Transitway Detail

### ***Description:***

This proposed change is to add a transitway from Union City to Newnan along the U.S. 23 corridor (CSX railroad). In particular, ridership on the express routes 450 and 455, 375 and 189 average daily riders in May, 2008 respectively, suggest a demand for peak period ridership in the corridor. The last study of major transit investment in this corridor reaching a conclusion that a heavy rail investment in this corridor was not warranted, however, express bus and local bus service was recommended.<sup>3</sup> This

<sup>3</sup> Southern Regional Accessibility Study.

transitway project would examine whether a fixed guideway segment such as commuter rail should be re-examined in corridor and what improvements to the freight rail might be necessary.

***Source of Comment***

- Public Comments at the Fayetteville Open House on April 23, 2008
- 6 Comments from Survey Monkey
- Comment from Coweta County

***Impact on Concept 3 Network:***

This transitway would allow an examination of the specific needs of the transit needs between I-85 in the South Fulton and Coweta County areas. In particular, the public comments supported an examination of commuter rail in the corridor to Newnan. This effort of examination the transitway should be coordinated with any study of freight rail needs between Union City and Lagrange to accommodate the increased freight activity on the line.

***Modifications to the Regional Suburban Bus Network***

These proposed changes are series of modifications to the regional suburban network as part of the public involvement process or identification of additional places of interest for the regional suburban bus network (i.e. Reinhardt College in Waleska).

- Canton to Waleska
- Change of South Fulton Parkway Suburban Bus to Arterial BRT
- West Cobb Suburban Bus in S.R. 6 / S.R. 92 corridor from Douglas County to Acworth P&R
- Transit Center at McDonough

***Impact on Concept 3 Network:***

The main impact of these changes is to create a more comprehensive regional network of suburban buses based on input from those who use the transportation system in these areas.

## Summary

This section presents the impact on costs these proposed changes have on the full system. Potential boardings and other impacts are still in development and will follow in a separate report. This section meant to summarize the overall changes in estimated Capital and Operating and Maintenance costs based upon the suggested changes. The following tables present the changes in estimated capital costs and annual estimated Operating and Maintenance Costs in 2030. One note about the Capital Costs, **they are Order of Magnitude ONLY and represent an estimate based on available knowledge as of July, 2008. Changes in soft costs such as engineering and design, construction costs, and ROW costs can change these estimates significantly**

	Original Concept 3	Proposed Concept 3	Change	Comments
<b>Heavy Rail</b>	\$3,600.0	\$1,490.0	-\$2,110.0	Changed GA 400 to High Cap. Reg. Rail
<b>High Cap. Reg. Rail</b>	\$4,215.0	\$7,860.0	\$3,645.0	Added GA 400, Canton, and I-20 East
<b>Inner Core Streetcar</b>	\$1,410.0	\$1,637.5	\$227.5	Added E-W segment in core
<b>Commuter Rail <sup>4</sup></b>	\$2,854.0	\$4,200.5	\$1,346.5	Added Madison Line and updated Gainesville Line est. to reflect all day service
<b>Freeway BRT</b>	\$2,580.0	\$1,510.0	-\$1,070.0	Changed I-20 East to High Cap. Reg. Rail
<b>Arterial Rapid Bus</b>	\$790.0	\$975.8	\$185.8	Added South Fulton, Pryor/Capitol and Moreland Avenue
<b>Support Facilities <sup>5</sup></b>	\$500.0	\$1,450.0	\$950.0	Improved est. of needed garages based upon service levels and other station facilities
<b>Total</b>	\$15,949	\$19,123.8	\$3,174.8	Largest Increases are result of better accounting for needed maintenance facilities, refinement of commuter rail estimates for all day service and addition of Canton corridor as a rail line and not transitway

Table 1 – Estimates of Capital Costs

Table 1 reveals that the largest increases in estimated capital costs occur in the High Capacity Regional Rail network, the Commuter Rail network, and in the support facilities. These increases are attributable to the inclusion of the Town Center / Canton High Capacity Rail corridor, change of I-20 East and GA 400 corridors to the High Capacity Regional Rail system, addition of the Madison Commuter Rail Line, an escalated estimate of the needed improvements to the Gainesville Commuter Rail line for all day service, and an improvement in the needed support facilities. It is also worth noting that the changes to

<sup>4</sup> Commuter rail estimates are conceptual and final costs for commuter rail improvements are highly dependent upon the needed investments to support the continued operation of freight rail movements.

<sup>5</sup> Support Facility Assumptions:

New Non-Rail P&R Facilities

I-75N (2), GA 400 (2), I-985 (1), I-85 (2), I20W (2), I-75S (3), I-85S (3), I-20W (2)

New Non-Rail Transit Centers

Canton, Woodstock, Cumming, Suwanee, Lawrenceville, Conyers, Lithonia

McDonough, Fayetteville, Newnan, Union City, Southlake, Douglasville

Dallas, P'tree City

New Bus Maintenance Facilities

N. Fulton/Forsyth (1), Gwinnett (1), DeKalb/Rockdale (1),

Henry/Spalding (1), Clayton (1), Fayette/Cowetta (1), Douglas (1)

Cobb/Paulding (1) - about 100-200 buses per garage.

the I-20 East and GA 400 lines are also reflected in the decreased estimated capital costs for the Heavy Rail and Freeway BRT totals.

For comparison, at the September 2007 TPB Retreat, the Original Concepts 1 and 2 had estimated capital costs of \$17.8 and \$16.5 billion respectively. Table 2 below compares the estimated operating costs.

Item	Mode	November Concept 3	Proposed Concept 3	Change
<b>Service Hours</b>	Add'l. Bus Hrs.	4,198,000	3,475,000	-723,000
	Add'l. Streetcar Train-Hrs.	242,000	294,200	52,200
	Add'l. LRT Train-Hours	220,000	560,000	340,000
	Add'l. MARTA Rail Train-Hrs.	82,000	63,600	-18,400
	Add'l. Commuter Rail Train-Hrs.	15,000	16,200	1,200
	Add'l. Regional Rail Train-Hrs.	50,000	67,100	17,100
<b>O&amp;M Costs</b>	Add'l. Bus Costs	\$377,820,000	\$312,750,000	-\$65,070,000
	Add'l. Streetcar Costs	\$35,000,000	\$41,505,000	\$6,505,000
	Add'l. LRT Costs	\$82,500,000	\$210,000,000	\$127,500,000
	Add'l. MARTA Rail Costs	\$61,500,000	\$47,700,000	-\$13,800,000
	Add'l. Commuter Rail Costs	\$46,500,000	\$50,220,000	\$3,720,000
	Add'l. Regional Rail Costs	\$50,000,000	\$67,100,000	\$17,100,000
	<b>Total Add'l. Cost</b>	<b>\$653,320,000</b>	<b>\$729,275,000</b>	<b>\$75,955,000</b>

Table 2 – Changes in Annual Estimated Operating Cost<sup>6</sup>

6

#### Assumptions Concerning Service-Hour Calculations

1. Additional rev. hours based on Concept 3 model run's estimate of in-service hours, with 10% added to account for uncoded routes and 15% added to account for schedule recover/layover.
2. Rail revenue-hours based on defined operating plans.

#### Assumptions concerning unit costs:

1. Bus costs = \$90/bus-hour.
2. Streetcar costs = \$175/train-hour for Beltline, \$125/train-hour for P'tree.
3. LRT costs = \$375/train-hour.
4. MARTA rail costs = \$750/hour.
5. Commuter rail = \$3,100 per train-hour.
6. Regional rail = \$1,000 per train-hour.

NOTE: Cost estimates in 2007 dollars.

Like Table 1, Table 2 reveals the greatest increase in the High Capacity Regional Rail Network, estimated as an LRT system which is expected given the proposed expansion of that system.

Overall, the addition of several new projects – Canton –Towne Center corridor, Madison Commuter Rail, and Snellville Arterial BRT – along with refinements to the Gainesville Commuter Rail, support facilities, and the original LRT system, does increase the estimated capital and operating and maintenance costs for the system.

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